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EXAMINER	
RASHID, DAVID	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/763,129	THAKUR, KHAGESHWAR	
	Examiner	Art Unit	
	DAVID P. RASHID	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11,12 and 19* is/are allowed.

6)☒ Claim(s) *1-10,13-18 and 20-23* is/are rejected.

7)☒ Claim(s) *24-26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

Amendments

2. This office action is responsive to the claim and specification amendment received on January 31, 2008. **Claims 1-26** remain pending; claims 24-26 new.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-4, 13-16,** and **22-23** are rejected under 35 U.S.C. 102(b) as being anticipated by Scherl et al. (US 4,411,015 A).

5. Regarding **claim 1**, Scherl discloses a method of classifying (Col. 1, lines 40 – 44; FIG. 1) an image (FIG. 1, element D), the method comprising:

obtaining an image (Col. 2, lines 19 – 24; FIG. 1, elements D, V, A/D, D);

determining one or more classification thresholds ("t" in Col. 3, lines 30 – 32);

determining a concentration ratio ("K" in Col. 3, lines 16 - 28) for the image that indicates a relative level of smoothness of a distribution of a population of elements in the image ("K" indicates "a relative level of smoothness" of a distribution of a population of elements in the image);

comparing the concentration ratio to at least one of the one or more classification thresholds ("less than" and "greater than or equal" in Col. 3, lines 33 - 36); and

classifying the image ("image area" and "text area" in Col. 3, lines 33 - 36) based on the comparison of the concentration ratio to at least one of the one or more classification thresholds.

6. Regarding **claim 2**, Scherl discloses the method as claimed in claim 1 wherein determining the concentration ratio ("K" in Col. 3, lines 16 - 28) for the image (Col. 2, lines 19 – 24; FIG. 1, elements D, V, A/D, D) includes determining the luminance components of pixels ("brightness" in Col. 3, lines 16 – 28 wherein luminance is used in the video industry to characterize the brightness of displays) in the image.

7. Regarding **claim 3**, Scherl discloses the method as claimed in claim 1 wherein determining the concentration ratio ("K" in Col. 3, lines 16 - 28) for the image (Col. 2, lines 19 – 24; FIG. 1, elements D, V, A/D, D) includes determining the grayscale components ("grayscale value" in Col. 3, lines 16 - 28) of the image.

8. Regarding **claim 4**, Scherl discloses the method as claimed in claim 1 wherein determining the concentration ratio ("K" in Col. 3, lines 16 - 28) for the image (Col. 2, lines 19 – 24; FIG. 1, elements D, V, A/D, D) includes generating a histogram (FIG. 2; FIG. 3; "histograms" in Col. 3, lines 12 - 16) for the image.

9. Regarding **claim 13**, claim 1 recites identical features as in the image classifying processor (FIG. 1, element R) of claim 13. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 13.

10. Regarding **claim 14**, claim 2 recites identical features as in the image classifying processor (FIG. 1, element R) of claim 14. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 14.

11. Regarding **claim 15**, claim 3 recites identical features as in the image classifying processor (FIG. 1, element R) of claim 15. Thus, references/arguments equivalent to those presented above for claim 3 are equally applicable to claim 15.

12. Regarding **claim 16**, claim 4 recites identical features as in the image classifying processor (FIG. 1, element R) of claim 16. Thus, references/arguments equivalent to those presented above for claim 4 are equally applicable to claim 16.

13. Regarding **claim 22**, claim 1 recites identical features as in the image processing system (FIG. 1) of claim 22. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 22.

14. Regarding **claim 23**, claim 1 recites identical features as in the computer-readable medium containing instructions (Col. 2, lines 28 – 31; FIG. 1, elements S, R wherein the computer R needs instructions to perform the actions cited in Col. 2, lines 28 – 31) for processing an image (FIG. 1, element D) of claim 23. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 23.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. **Claims 5-10** and **17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherl et al. (US 4,411,015 A) in view of Hartmann et al. (US 2002/0067857 A1).

17. Regarding **claim 5**, while Scherl discloses the method as claimed in claim 1, Scherl does not teach wherein determining one or more classification thresholds includes a training process.

Hartmann discloses a system and method for classification of images and videos (FIG. 1) that teaches determining one or more classification thresholds (FIG. 7, element 860; "one or more predetermined classification parameters" in paragraph [0120]) by including a training process (paragraph [0068], FIG. 7; "The classification determination uses a trained model." in paragraph [0120]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for determining the one or classification thresholds of Scherl to include a training process as taught by Hartmann as "[t]he method classifies the training images from at least one operating parameter 840, yielding overall accuracy.", Hartmann, paragraph [0068] and "...to improve the accuracy of the classification of the second group of images.", Hartmann, paragraph [0120].

18. Regarding **claim 6**, while Scherl in view of Hartmann disclose the method as claimed in claim 5, Scherl in view of Hartmann do not teach wherein the training process includes analyzing a set of images having known classifications.

Hartmann discloses a system and method for classification of images and videos (FIG. 1) that teaches wherein a training process (paragraph [0068], FIG. 7; "The classification determination uses a trained model." in paragraph [0120]) includes analyzing a set of images having known classifications ("known classification" in paragraph [0120]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for determining the one or classification thresholds of Scherl wherein a training process

includes analyzing a set of images having known classifications as taught by Hartmann "…to improve the accuracy of the classification of the second group of images.", Hartmann, paragraph [0120].

19. Regarding **claim 7**, while Scherl in view of Hartmann disclose the method as claimed in claim 6, Scherl in view of Hartmann do not disclose wherein analyzing a set of images having known classifications includes determining a concentration ratio for each image in the set of images.

Scherl discloses wherein analyzing images ("video" in FIG. 1) includes determining a concentration ratio ("K" in Col. 3, lines 16 - 28) for each image in the set of images.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the set of images having known classifications as taught by Scherl in view of Hartmann to include determining a concentration ratio for each image in the set of images as taught by Scherl "…to provide a method and apparatus for automatic recognition of image and text/graphics areas on a master which automatically separates such different information-containing areas and classified the separated areas properly.", Scherl, Col. 1, 40 – 44.

20. Regarding **claim 8**, while Scherl in view of Hartmann in claim 7 disclose the method as claimed in claim 7, Scherl in view of Hartmann do not disclose wherein determining the concentration ratio for each image in the set of images includes generating a histogram for each image.

Scherl discloses wherein determining the concentration ratio ("K" in Col. 3, lines 16 - 28) for each image in the set of images ("video" in FIG. 1) includes generating a histogram (FIG. 2; FIG. 3; "histograms" in Col. 3, lines 12 - 16) for each image.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the set of images having known classifications and determined concentration ratios as taught by Scherl in view of Hartmann in claim 7 to include generating a histogram of each image as taught by Scherl "…to provide a method and apparatus for automatic recognition of image and text/graphics

areas on a master which automatically separates such different information-containing areas and classified the separated areas properly.", Scherl, Col. 1, 40 – 44.

21. Regarding **claim 9**, while Scherl in view of Hartmann disclose the method as claimed in claim 5, and while Sherl discloses wherein determining one or more classification thresholds ("t" in Col. 3, lines 30 – 32) includes determining a threshold for text images ("t" in Col. 3, lines 30 – 36) and a threshold for other images ("t" in Col. 3, lines 30 – 36), Sherl does not teach wherein the other images are photographic images (since other images do not necessarily include photographic images).

Hartmann discloses a system and method for classification of images and videos (FIG. 1) that teaches classifying photographic images ("digital photos" in paragraph [0036]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the other image group of Scherl to be photographic images as taught by Hartmann so that "[t]he class of natural images encompasses all images taken from nature.", Hartmann, paragraph [0036].

22. Regarding **claim 10**, while Scherl in view of Hartmann disclose the method as claimed in claim 5, and while Scherl discloses wherein classifying the image based on the comparison of the concentration ratio to at least one of the one or more classification thresholds is performed according to the following:

If (CR<T), then image type = text (Col. 3, lines 33 – 36 such that the inequality is negated)

If (T≤CR<P), then image type = graphic

If (P≤CR), then image type = other image (Col. 3, lines 33 – 36 such that the inequality is negated)

where CR is a concentration ratio ("K" in Col. 3, lines 16 - 28) of the image, T is a threshold for text images ("t" in Col. 3, lines 30 – 36) and P is a threshold for photographic images ("t" in Col.

3, lines 30 – 36), Sherl does not teach wherein the other images are photographic images (since other images do not necessarily include photographic images).

Hartmann discloses a system and method for classification of images and videos (FIG. 1) that teaches classifying photographic images ("digital photos" in paragraph [0036]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the other image group of Scherl to be photographic images as taught by Hartmann so that "[t]he class of natural images encompasses all images taken from nature.", Hartmann, paragraph [0036].

It must be noted that the negation of the inequalities in Col. 3, lines 33 – 36 of Scherl are then equivalent to those of the examined application. Since variable K of Scherl (concentration ratio CR) is between 0 and 1, the negation could either be [1] the simple result of inversion of K (1/K) or [2] the subtraction of K from 1 (1 – K). It is shown that without mathematical negation, Scherl achieves the same result as the examined application in that either above/below the threshold in comparison to the concentration ratio gives a text image, and that the opposite will be the other image (photographic image as further taught by Hartmann).

23. Regarding **claim 17**, while Scherl discloses an image classifying processor as claimed in ciam 13 and while Scherl discloses wherein the processor includes a memory (FIG. 1, element S) and the memory includes (The only memory disclosed in Scherl is element S, thus the thresholds for the text and photographic images must be in element S.) a threshold for text images ("t" in Col. 3, lines 30 – 36), and threshold for other images ("t" in Col. 3, lines 30 – 36), Sherl does not teach wherein the other images are photographic images (since other images do not necessarily include photographic images).

Hartmann discloses a system and method for classification of images and videos (FIG. 1) that teaches classifying photographic images ("digital photos" in paragraph [0036]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the other image group of Scherl to be photographic images as taught by Hartmann so that "[t]he class of natural images encompasses all images taken from nature.", Hartmann, paragraph [0036].

24. Regarding **claim 18**, claim 10 recites identical features as in the image classifying processor (FIG. 1, element R) of claim 18. Thus, references/arguments equivalent to those presented above for claim 10 are equally applicable to claim 18.

25. **Claims 20-21** are rejected under 35 U.S.C. 102(b) as being anticipated by Poggio et al. (US 5,642,431 A) in view of Scherl et al. (US 4,411,015 A).

26. Regarding **claim 20**, while Poggio discloses a method of processing an image (FIG. 1), the method comprising:

capturing an image (FIG. 1, element 102) of an object (FIG. 1, element 101);

classifying the image (FIG. 1, element 106) in a class (Col. 3, lines 29 – 34 wherein the class is images with the a face detected) using a threshold (a threshold must exist for the image classifier 106 to detect the presence of the face);

using the class to modify the operation (FIG. 3, element 106; "neural network" in Col. 6, lines 40 – 47) of an image capturing device (FIG. 1, element 100 including elements 102 and 106); and

applying controlled, equalization (FIG. 4, element 405) to an image generated by the image capture device (FIG. 4, element 401) where the controlled, histogram equalization uses (the controlled, histogram equalization step 405 uses the concentration ratio in that the obtained sample face patterns of step 401 used the concentration ratio to determine that they were in face images with

detected faces) a threshold, Poggio does not teach wherein the threshold is a concentration ratio that indicates a relative level of smoothness of a distribution of a population of elements in the image.

Scherl discloses a method for automatic recognition of image and text/graphics areas on a master wherein the threshold used is a concentration ratio ("K" in Col. 3) that indicates a relative level of smoothness of a distribution of a population of elements in the image ("K" indicates "a relative level of smoothness" of a distribution of a population of elements in the image).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the threshold of Poggio to include the concentration ratio that indicates a relative level of smoothness of a distribution of a population of elements in the image as taught by Scherl "to provide a method and apparatus for automatic recognition of image and text/graphics areas on a master which automatically separates such different information-containing areas and classifies the separated areas properly.", Scherl, Col. 1, lines 40 – 43.

27. Regarding **claim 21**, while Poggio discloses an image processing system (FIG. 1) comprising:

an image capture device (FIG. 1, element 102);

an image classifier (FIG. 1, element 106) coupled to the image capture device in a feedback loop (FIG. 3, element 106; "neural network" in Col. 6, lines 40 – 47); and

a controlled, equalization (FIG. 4, element 405) processor (FIG. 1, element 110) coupled to the image capture device that uses a threshold (a threshold must exist for the image classifier 106 to detect the presence of the face), Poggio does not teach wherein the threshold is a concentration ratio that indicates a relative level of smoothness of a distribution of a population of elements in the image.

Scherl discloses a method for automatic recognition of image and text/graphics areas on a master wherein the threshold used is a concentration ratio ("K" in Col. 3) that indicates a relative level

of smoothness of a distribution of a population of elements in the image ("K" indicates "a relative level of smoothness" of a distribution of a population of elements in the image).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the threshold of Poggio to include the concentration ratio that indicates a relative level of smoothness of a distribution of a population of elements in the image as taught by Scherl "to provide a method and apparatus for automatic recognition of image and text/graphics areas on a master which automatically separates such different information-containing areas and classifies the separated areas properly.", Scherl, Col. 1, lines 40 – 43.

Allowable Subject Matter

28. **Claims 11-12** and **19** allowed.

29. **Claims 24-26** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding **claims 24-26**, while the prior art teaches determining a concentration ratio for an image, the prior art does not teach wherein determining the concentration ratio for the image includes determining the concentration ratio according to the following

$$CR=\left(\sum_L P_L\right)^n \Big/ \left(\sum_L P_L^n\right)$$

where CR is a concentration ratio, n is grater than 1, and P_L is a population at a level L.

Response to Arguments

30. Applicant's arguments filed on 9/24/2007 with respect to **claims 1-23** have been respectfully and fully considered, though they are not found persuasive.

31. **Summary of Remarks** regarding **claim 1**:

Applicant argues that the variable K of Scherl (see the equation for determining (K) in Scherl at column 3, line 20) does not indicate a relative level of smoothness of a distribution of a population of elements in the image, as recited in claim 1 as amended, as demonstrated by the examples that follow.

Example 1: In Scherl, i_{max} is the maximum brightness value. Assume that in the brightness range 0.8 i_{max} to i_{max} the brightness values are in a range of 0 to 255. Assume that there are 10 values of level 240 and 10 values of level 250 (wherein 0.8 i_{max} = 204), and 80 values of level 20, and thus N=100. In this case, K = 20/100, or 20 percent.

Example 2: In Scherl, i_{max} is the maximum brightness value. Assume that in the brightness range 0.8 i_{max} to i_{max} the brightness values are in a range of 0 to 255. Assume that there are 10 values of level 240 and 10 values of level 250 (wherein 0.8 i_{max} = 204), and 80 values of level 190, and thus N=100. However, in this case also, K = 20/100, or 20 percent.

Thus, in comparing Examples 1 and 2 above, K is the same value, regardless of the values of the 80 percent of values that are less than 0.8 imax. In terms of smoothness of the image, however, the range of elements of Example 2 is much more smooth than in Example 1, since the 80 percent of the values at level 190 are much closer to the levels 240 and 250 (as in Example 2) then the 80 percent of the values at level 20 is to the levels 240 and 250 (Example 1). Thus, in Scherl the variable K is not a concentration ratio that indicates the smoothness of the distribution of a population of elements in the image.

As an exemplary comparison, as stated in Applicant's specification at paragraph 0036, "Generally, if the population is distributed evenly across all levels, the CR [i.e., concentration ratio] is a large number. Likewise, if the entire population is concentrated at a few levels, the CR is generally a small number." (Emphasis added). This is because in claim 1 the concentration ratio indicates the

smoothness of the distribution of a population of elements in the image, whereas in Scherl the variable K does not. (Applicant Resp. at 8-10, January 31, 2008.)

32. **Examiner's Response** regarding **claim 1**:

However, in light of the Applicant's two examples given (Resp. at 9) and the Applicant's understanding of the variable "K" (Col. 3 of Scherl), the Examiner maintains two points on why "K" is a concentration ratio.

(i) "Smooth images" as defined in Applicant's disclosure cites "[i]n general, grainy images are produced when what is called a "smooth" image (i.e., an image with few gray levels) is processed by histogram equalization." (para. 0035; emphasis added). The two examples given do equate "K" to the value 20; however, the two examples both have only three gray levels (example 1 uses 20, 240, 250 and example 2 uses 190, 240, 250). According to the disclosure, these two examples are equal in smoothness which reinforces that both would have K=20, not help distinguish them. Applicant stating that "the range of elements of Example 2 is much more smooth than in Example 1, since the 80 percent of the values at level 190 are much closer to the levels 240 and 250" (Resp. at 10) is false according to "smoothness" by Applicant's disclosure. The distances between grey levels is not a determinant of the level of smoothness, but the total number of grey levels. Applicant's example does nothing more than reinforce "K" is a true indicator of "smoothness".

(ii) On a more abstract notion, the Examiner understands that the Applicant is attempting to find specific and isolated exceptions for which "K" may perhaps contradict the Applicant's representation of concentration ratio and smoothness. However, so long as there does exist one example on the side of the Examiner for which "K" does not contradict the Applicant's representation of concentration ratio and smoothness, "K" (and thus Scherl) anticipates claim 1.

Example 3: Assume that in the brightness range 0.8 i_{max} to i_{max} the brightness values are in a range of 0 to 255. Assume that there are 10 values of level 240 and 10 values of level 250 (wherein 0.8 i_{max} = 204), and 80 values of level 20, and thus N=100. In this case, K = 20/100, or 20 percent with three levels.

Example 4: Assume that in the brightness range 0.8 i_{max} to i_{max} the brightness values are in a range of 0 to 255. Assume that there are 10 values of level 250 (wherein 0.8 i_{max} = 204), and 10 values of level 200, and thus N=20. In this case, K = 10/20, or 50 percent with two levels.

Example 4 is more "smooth" than Example 3 because Example 4 has one less level than Example 3 (and it is also closer in distance according to Applicant's misguided criteria). Example 4 would be considered text and Example 3 would be considered an image if "t" resided between 20 and 50 percent (Scherl, 3:29-36). "K" in Examples 3 and 4 anticipate the concentration ratio in claim 1.

33. **Summary of Remarks** regarding **claims 20-21**:

Applicant argues as set forth above with respect to claim 1, Scherl does not disclose, teach or suggest, "a concentration ratio that indicates a relative level of smoothness of a distribution of a population of elements in the image", as recited in claims 20-21 (Resp. at 12.)

34. **Examiner's Response** regarding **claims 20-21**:

However, for the reasons given above (Office Action, ss. 26-27,31), it would have been obvious to one of ordinary skill in the art at the time the invention was made for the threshold of Poggio to include the concentration ratio that indicates a relative level of smoothness of a distribution of a population of elements in the image as taught by Scherl "to provide a method and apparatus for automatic recognition of image and text/graphics areas on a master which automatically separates

such different information-containing areas and classifies the separated areas properly.", Scherl, Col. 1, lines 40 – 43.

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5790690 A; US 5883973 A; US 6092059 A; US 6192360 B1; US 20010007599 A1; US 20010036314 A1.

36. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

David P Rashid
Examiner
Art Unit 2624

/Vikkram Bali/

Supervisory Patent Examiner, Art Unit 2624